**Glossary**

**Air and ocean temperatures are warmer** A direct effect of global warming is that the air gets warmer. Because the air and the ocean touch each other and are mixed together by winds and waves, heat can travel out of the air and into the water making the ocean warmer. Warmer temperatures in the air and ocean cause many changes to the worlds ecosystems, weather, climate, and human communities.

**Climate** The long-term pattern of weather in a particular area. Climate is measured by assessing the patterns of variation in temperature, humidity, atmospheric pressure, wind, precipitation, and other properties of the weather in a given region over long periods of time.

**Climate adaptation** Actions taken by people, communities and governments that help protect themselves, and ecosystems, from harmful climate impacts.

**Climate change** A change in global or regional climate patterns. In particular a change apparent from the mid to late 19th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

**Coastal erosion** Wearing away and loss of beaches and land due to waves. Coastal erosion gets worse when sea level rises.

**Convective rain** Convection of the air occurs when hot air moves upward. This develops when Earths surface becomes heated more than its surroundings leading to strong evaporation that makes clouds. The clouds produce convective rain that falls as showers with rapidly changing intensity. Convective rain falls over a certain area for a relatively short time, because convective clouds have limited horizontal extent. Most precipitation in the tropics appears to be convective.

**El Niño** A natural climate event, lasting typically less than 1 year, which occurs in the Pacific when the normal trade winds weaken (or die) and are replaced by monsoon winds. This causes warm water in the western tropical Pacific to surge into the central and eastern Pacific. El Niño can cause temporary global changes in the climate and weather.

**El Niño southern oscillation** (ENSO) Refers to a Pacific climate event that has two states: El Niño and La Niña. These states govern the movement of a large body of warm water to the eastern (El Niño) or western (La Niña) regions of the tropical Pacific Ocean. ENSO states cause strong climate and weather changes around the globe.

**Global warming** When the air in the lowest portion of the atmosphere (the troposphere) gets significantly warmer than normal. Global warming is caused by an increase in the amount of heat-trapping greenhouse gases when humans burn fossil fuels (coal, petroleum, natural gas) for energy. Other types of greenhouse gases produced by humans also contribute to the problem.

**Humidity** The amount of water vapor in the air.

**Intertropical convergence zone** (ITCZ) Known by sailors as “the doldrums”, the ITCZ is a belt of low air pressure which circles Earth generally near the equator where the trade winds of the Northern and Southern Hemispheres come together. The ITCZ tends to be a region of thunderstorms and high rainfall.

**King tide** A term that describes an unusually high tide, usually the highest tides of the year. King tides may cause flooding on low-lying coastal lands.

**La Niña** A natural climate event, lasting typically less than 1 year, which occurs in the Pacific when the trade winds grow stronger than normal. This causes a body of warm water to accumulate in the western tropical Pacific and is an opposite state to El Niño.

**Monsoon winds** Winds that blow from the west and typically bring a change in weather conditions.

**Neutral** A year in which ENSO conditions are neither in the El Niño or La Niña states.

**Ocean acidification** Decrease in the pH of the Earth's oceans, caused by the uptake of carbon dioxide (CO2) from the atmosphere. An estimated 30–40% of the carbon dioxide released by humans into the atmosphere dissolves into oceans, rivers and lakes, lowering their pH.

**Orographic rain** Orographic rain occurs when humid air is forced upwards over rising terrain, such as a mountain, into colder air at higher elevations. This causes the rate of condensation to exceed the rate of evaporation, producing orographic clouds that yield orographic rain.

**Resilient** Resilient communities are better able to bounce back from disasters and disruptions, such as tropical cyclones, in a sustainable way and maintain a good quality of life for all. They are better prepared for uncertainties and able to adapt to changing conditions.

**Sea level rise** When the average level of the surface of the ocean rises, especially as a result of global warming that melts glaciers (increasing the amount of water in the ocean) and warms the ocean (causing ocean water to expand, upwards).

**Trade winds** A wind blowing steadily toward the equator from the northeast in the northern hemisphere or the southeast in the southern hemisphere, especially at sea.

**Tropical cyclone** A rotating system of strong winds, clouds and thunderstorms that produce heavy rain. Tropical cyclones are organized around a center, or eye, where there is low air pressure. Tropical cyclones cause storm surge and are responsible for severe damage where they make landfall in human communities.

**Variability** Meaning that the state of the weather, or climate, has a high degree of change. Climate conditions that are variable are always changing.

**Weather** The state of the atmosphere at a place and time as regards heat, dryness, sunshine, wind, rain, and other conditions.